

TECATRON® PPS natural - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPS (Polyphenylsulfide)

Colour

natural

Density

1.36 g/cm³

Main features

- high purity
- very good chemical resistance
- good heat deflection temperature
- high creep resistance
- high strength
- high dimensional stability
- resistance against high energy radiation

Target Industries

- chemical technology
- mechanical engineering
- precision engineering
- electrical engineering
- food processing
- food engineering
- vacuum technology

Mechanical properties	condition	value	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	836,700 psi	ASTM D 638	
Tensile strength at yield	@ 73 °F	13,700 psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	2.5 %	ASTM D 638	
Flexural strength	@ 73 °F	20,400 psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	631,100 psi	ASTM D 790	
Compression strength	@ 10% strain	19,000 psi	ASTM D 695	
Compression modulus		400,000 psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	0.62 ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F M Scale	105	ASTM D 785	
Rockwell hardness	R Scale	124	ASTM D 785	
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.24	ASTM D 3702	
Wear (K) factor	Against Steel, 40 psi, 50 fpm	540*10 ⁻⁶ in ³ -min/ft-lbs-hr	ASTM D 3702	
Thermal properties	condition	value	test method	comment
Melting temperature		536 °F	-	(1) per UL746B
Deflection temperature	@ 66 psi	400 °F	ASTM D 648	(2) data from public sources
Deflection temperature	@264 psi	220 °F	ASTM D 648	(3) data from public sources
Service temperature	Long Term	338 °F	-	(4) data from public sources
Service temperature	Intermittent	500 °F	-	1)
Thermal expansion (CLTE)	72 F - 140 F	3.3 *10 ⁻⁵ in/in/°F	ASTM D 696	2)
Specific heat		0.239 BTU/lb-F°	ISO 22007-4:2008	3)
Thermal conductivity		2.08 BTU-in/hr-ft ² -°F	ISO 22007-4:2008	4)
Electrical properties	condition	value	test method	comment
surface resistivity		1.0*10 ¹⁵ Ω	DIN IEC 60093	1) (1) data from public sources
Dielectric strength		450 V/mil	ASTM D 149	2) (2) data from public sources
Dissipation factor	@ 1 KHz, 73 °F	.0001	ASTM D 150	3) (3) data from public sources
Dielectric constant	@ 1 KHz, 73 °F, 50% RH	3.0	ASTM D 150	4) (4) data from public sources
Other properties	condition	value	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.01 %	ASTM D 570	(1) Estimated
Flammability (UL94)		V0	DIN IEC 60695-11-10;	1)

→ Resin specification:
ASTM D 6358-06 PPS000B00000
Shapes specification:
NONE

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